

HANOVER STREET CORRIDOR STUDY

includes the Vietnam Veterans Memorial Bridge



Public Information Meeting

Tuesday, May 23, 2017



Tonight's Presentation

- Study Overview
- Project Goals
- Process & Schedule
- Work Completed to Date
- Design Opportunities
- Next Steps
- Your Input



Study Overview

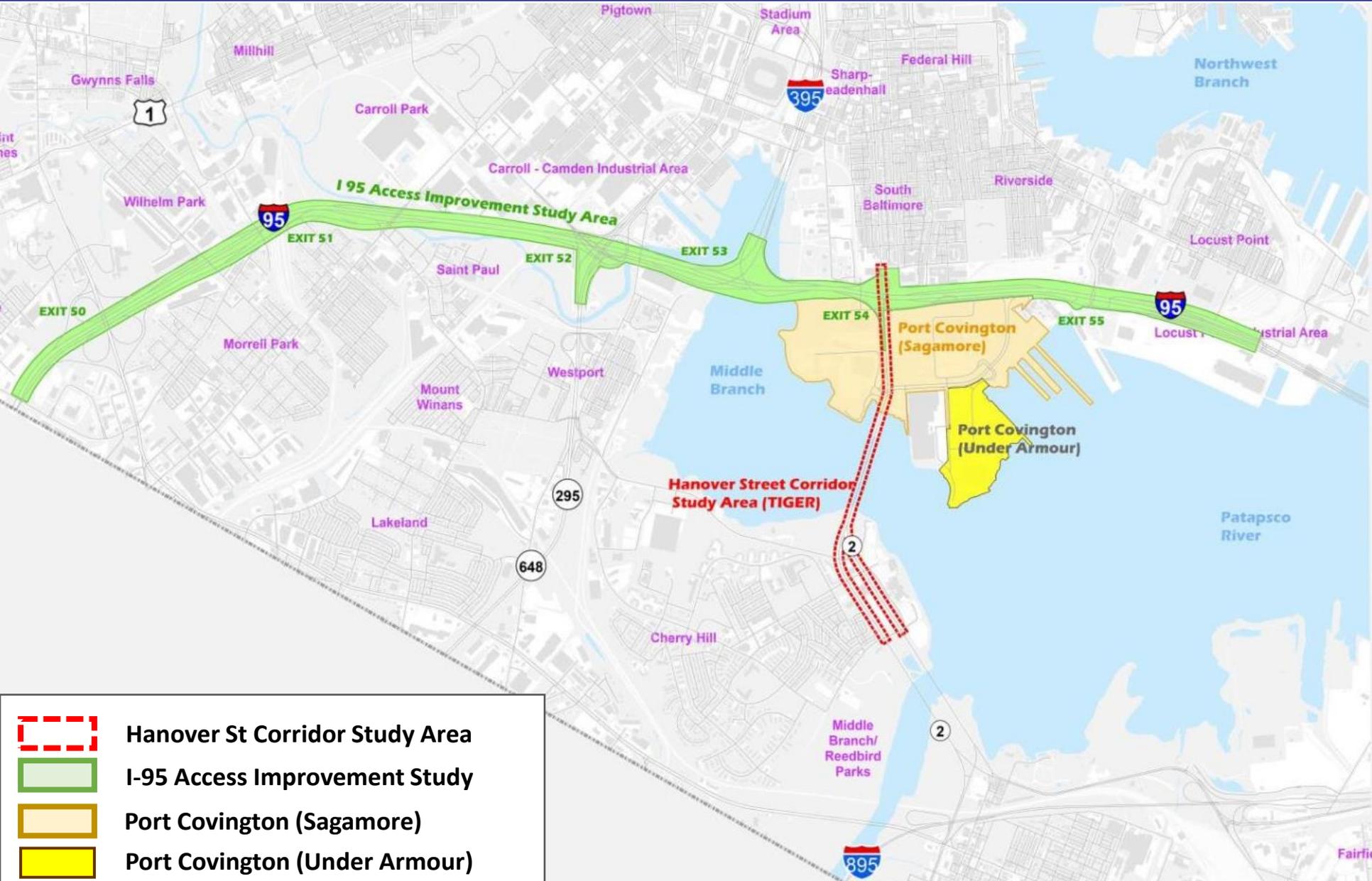
- **Purpose:** Identify improvements to the Vietnam Veterans Memorial Bridge and Hanover Street corridor to address accessibility, connectivity, and safety for multiple modes:
 - Bicycle
 - Pedestrian
 - Transit
 - Automobiles
 - Freight
- **Funding:** USDOT \$1.1 MM TIGER Grant and a \$700,000 match from Baltimore City
- **Study Limits:** Wells Street to Reedbird Avenue (a distance of 1.4 miles)



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Adjacent Projects



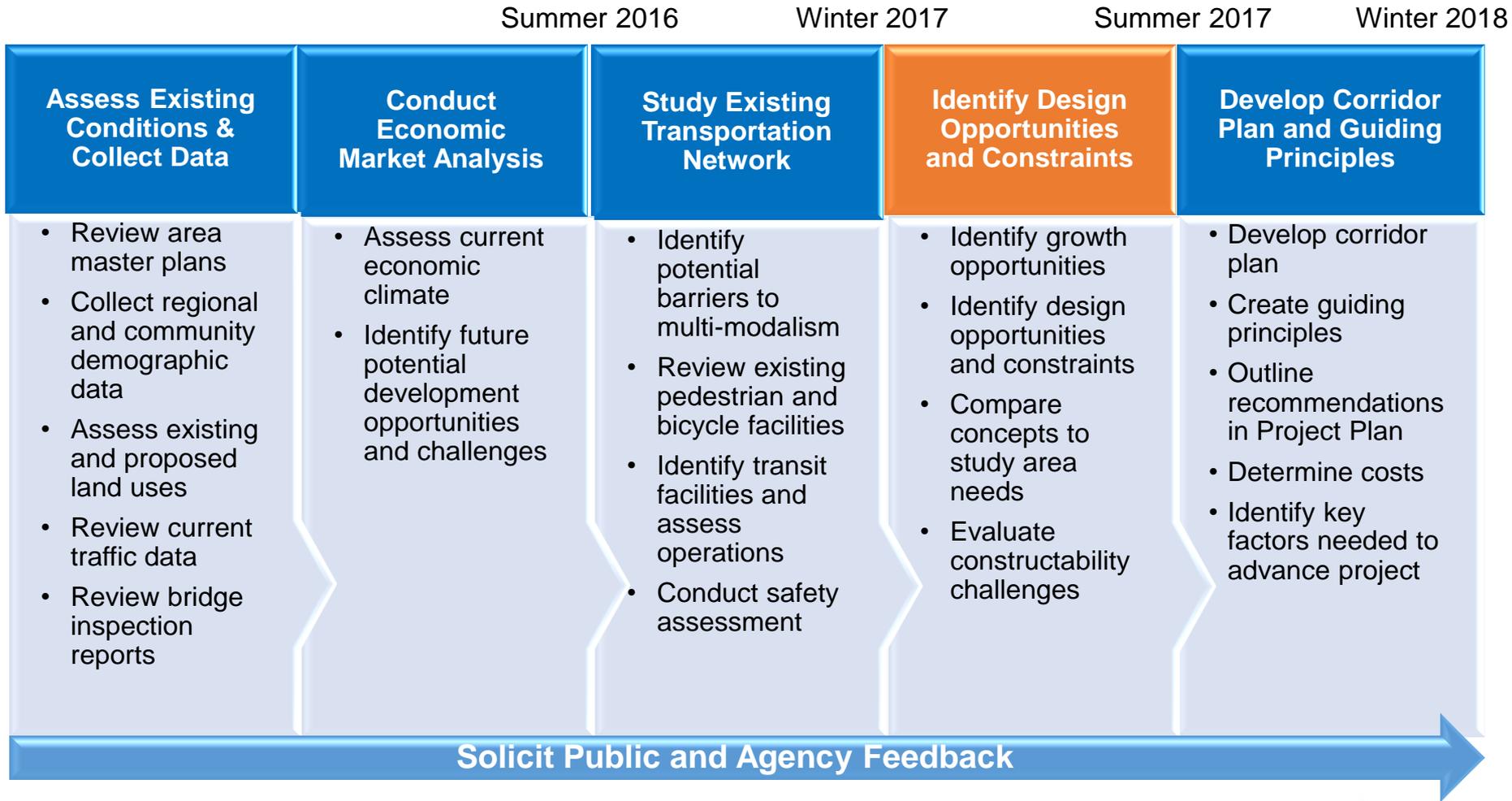
-  Hanover St Corridor Study Area
-  I-95 Access Improvement Study
-  Port Covington (Sagamore)
-  Port Covington (Under Armour)

Project Goals

At the end of this process, the team will produce a PLAN to upgrade and enhance the Hanover Street corridor and Vietnam Veterans Memorial bridge by:

- Providing the surrounding communities with safe and reliable access to key quality of life resources
- Maintaining a critical link between existing and planned bicycle and pedestrian trails
- Improving access for local and regional motorists and freight to and from the Port of Baltimore
- Promoting better connectivity between local bus and light rail services

Process & Schedule



Work Completed to Date

- Conducted Public Outreach
 - Interagency Advisory Group (IAG)
 - Community Advisory Panel (CAP)
 - Public Meetings – September 2016 and January 2017
- Collected Existing Conditions Data
 - Review of available data and previous plans, studies, and inspection reports
 - Field visits to verify existing conditions
- Conducted Economic Market Analysis
 - Review of previous economic and master plans
 - Analysis of demographic, economic, and real estate data
 - Stakeholder interviews
 - Documentation of economic strengths and weaknesses
- Analyzed Existing Transportation Network
 - Investigation of existing demand
 - Review of safety and capacity of existing facilities

Existing Conditions: Barriers to Multimodal Safety, Connectivity, and Accessibility



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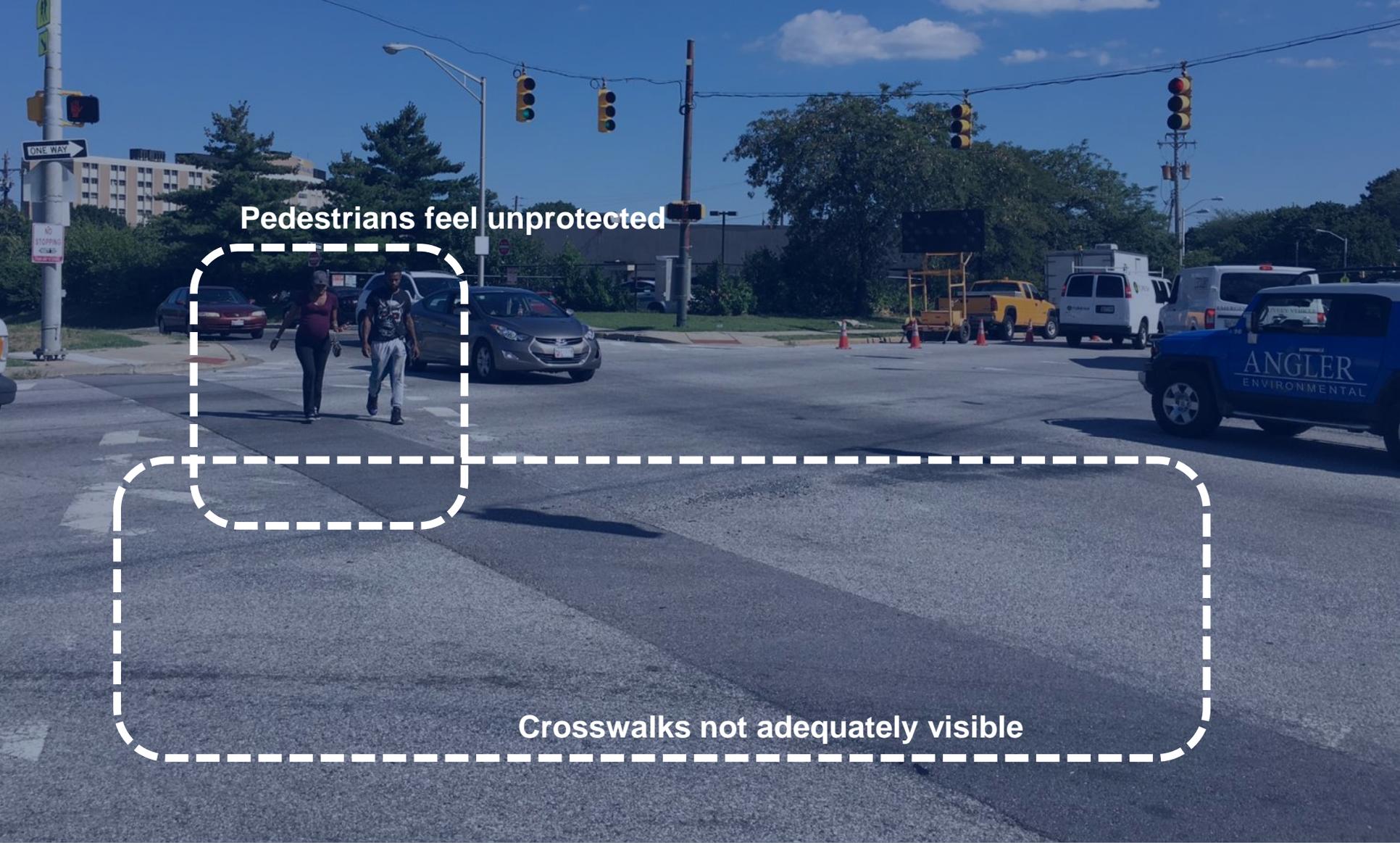
Intersection safety is critical to intermodal connectivity

Truck traffic

Bus circulation

Pedestrian systems

Barriers to Multimodal Safety, Connectivity, and Accessibility



Pedestrians feel unprotected

Crosswalks not adequately visible

Barriers to Multimodal Safety, Connectivity, and Accessibility



Signage not supporting pedestrian safety, comfort or convenience

Crosswalks not adequately visible

Free right turn can create conflicts between pedestrians and truck traffic

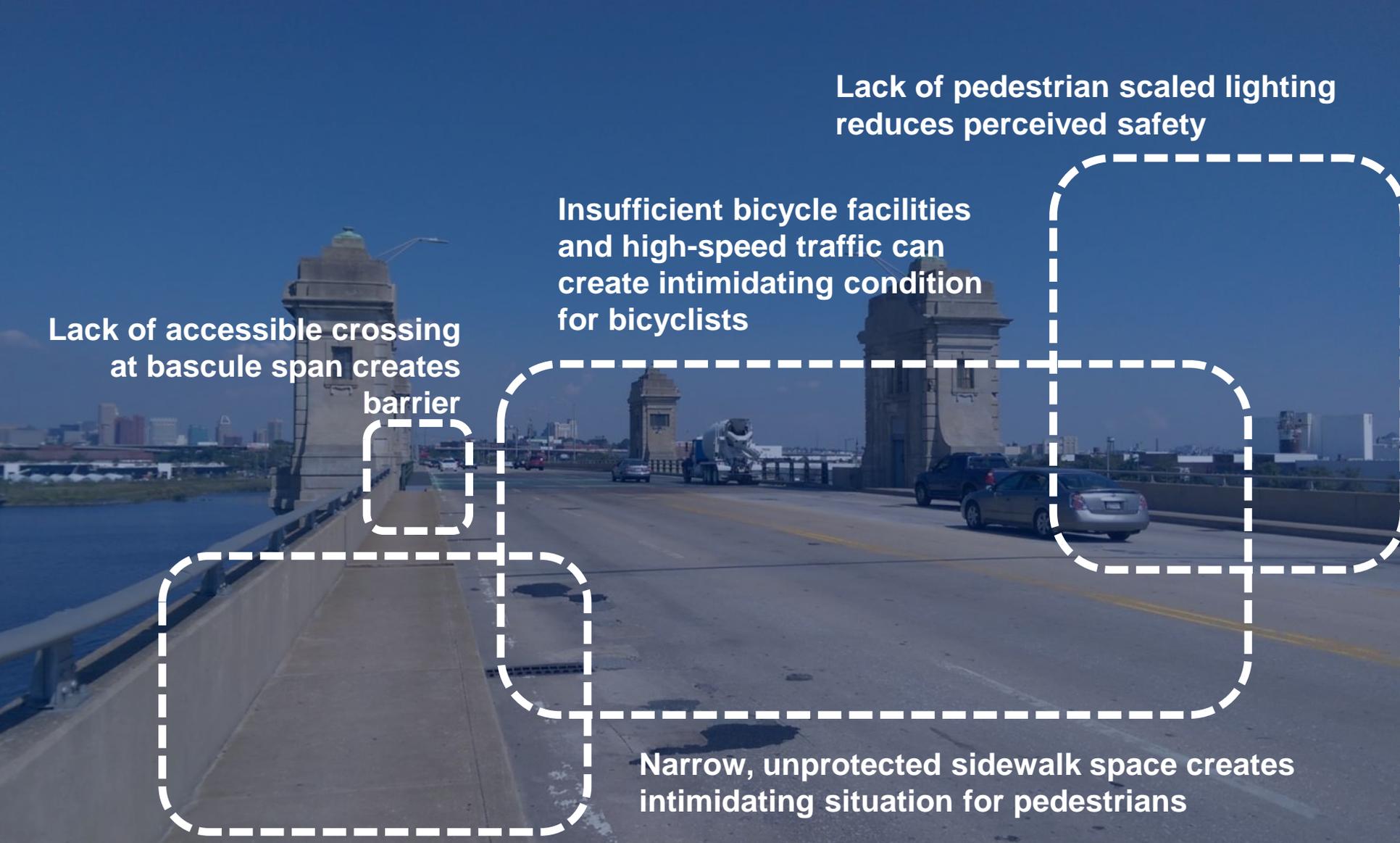
Barriers to Multimodal Safety, Connectivity, and Accessibility



Street lighting designed for vehicles rather than pedestrians

Unmet demand for pedestrian facilities

Barriers to Multimodal Safety, Connectivity, and Accessibility



Lack of pedestrian scaled lighting reduces perceived safety

Insufficient bicycle facilities and high-speed traffic can create intimidating condition for bicyclists

Lack of accessible crossing at bascule span creates barrier

Narrow, unprotected sidewalk space creates intimidating situation for pedestrians

Barriers to Multimodal Safety, Connectivity, and Accessibility



Summary of Corridor Conditions

- Sidewalks adjacent to trucks and high speed traffic
- Lack of accessibility to bus stops (no sidewalks or obstructed sidewalks)
- Lack of pedestrian type lighting
- Some pedestrian signals and curb ramps not in compliance with current ADA design standards
- Crosswalks in need of maintenance
- Insufficient bike facilities
- Poor bridge deck and pavement conditions
- Movable span operating system that creates challenges with maritime access

What We've Heard from Stakeholders

Key areas of focus for the project team to consider:

- Safety and comfort for pedestrians and cyclists
- Improving traffic signalization and signage
- Future construction impacts to community
- Neighborhood beautification (landscaping, community signage, etc.)
- Maintaining historic view into Baltimore
- Vehicular riding surface on bridge
- Speeding in corridor
- Poor transit access to downtown (jobs)
- Commercial vehicle travel
- Consistency with area master plans and ongoing development

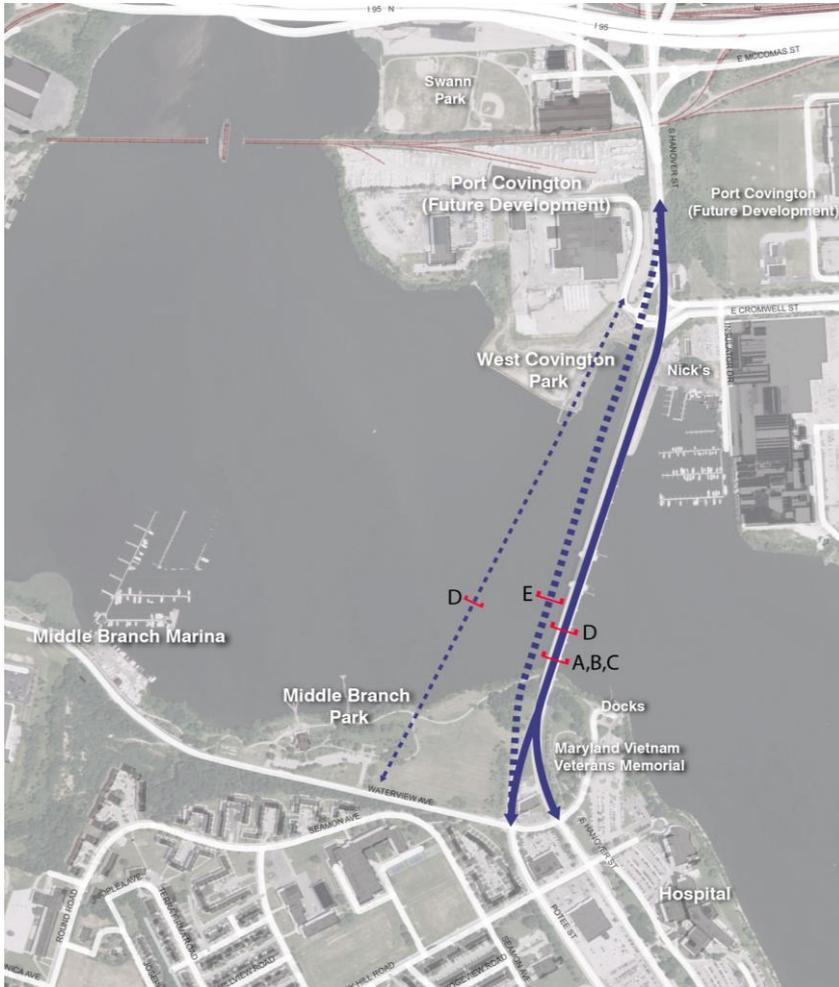
Design Opportunities



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Potential Bridge Typical Sections



Option A

No-Build (maintain existing bridge)

Option B

Maintain existing bridge,
improve roadway approaches

Option C

Rehabilitate bridge within existing footprint

Option D

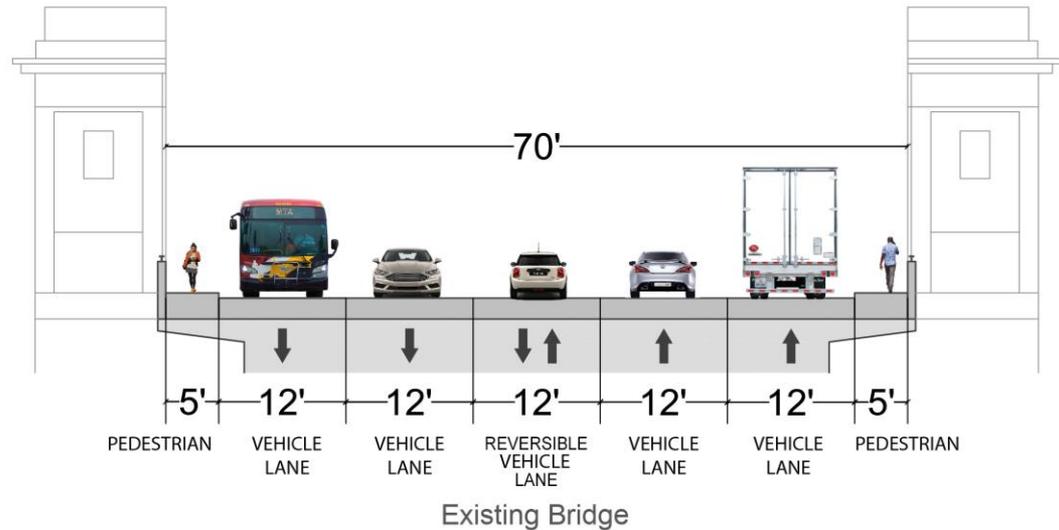
Rehabilitate existing bridge (Option C),
build new adjacent pedestrian/bike bridge

Option E

Build new bridge, demolish existing bridge

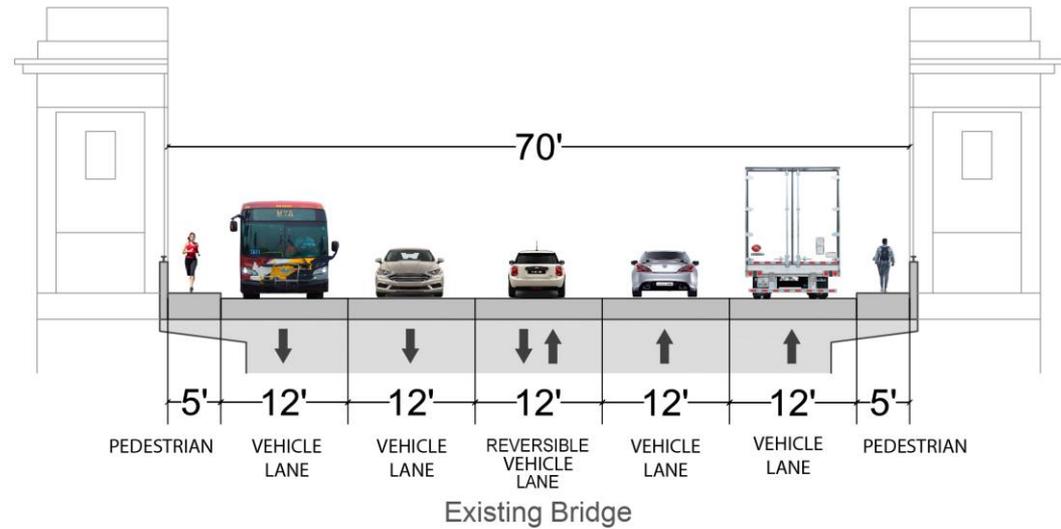
Potential Bridge Typical Sections

Option A: No-Build (maintain existing bridge)



Potential Bridge Typical Sections

Option B: Maintain existing bridge, improve roadway approaches

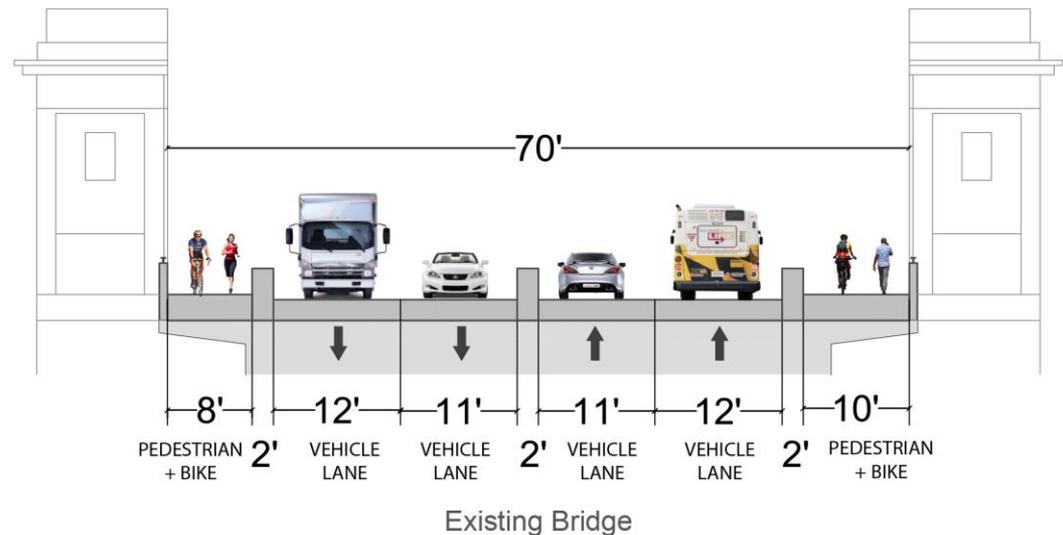


Potential Bridge Typical Sections

Option C: Rehabilitate bridge within existing footprint

Option C₁

- Reduce travel lanes to four lanes
- Add median barrier
- Add two barrier-separated pedestrian/bike paths

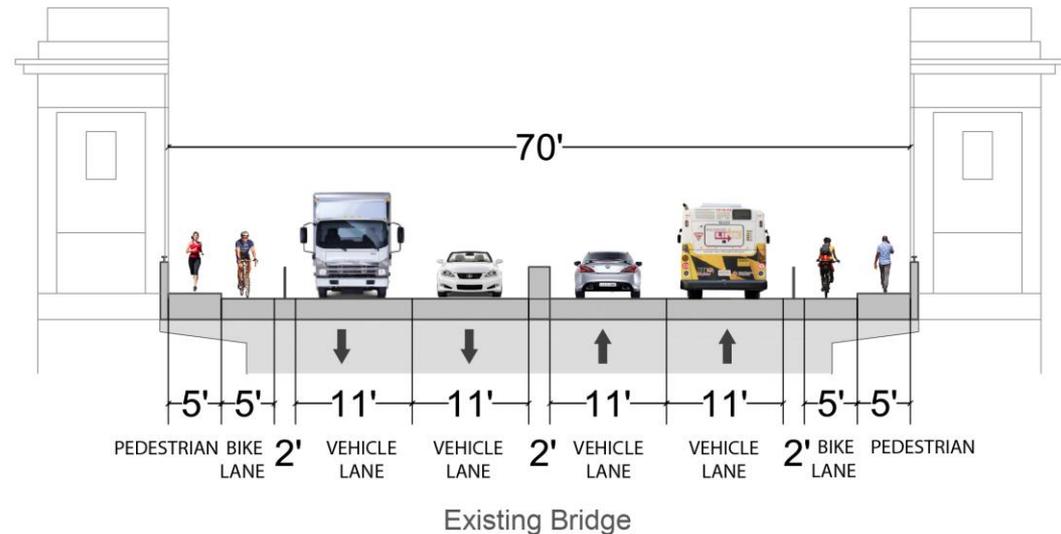


Potential Bridge Typical Sections

Option C: Rehabilitate bridge within existing footprint

Option C₂

- Reduce travel lanes to four lanes
- Add median barrier
- Add two 5' bike lanes with 2' buffer

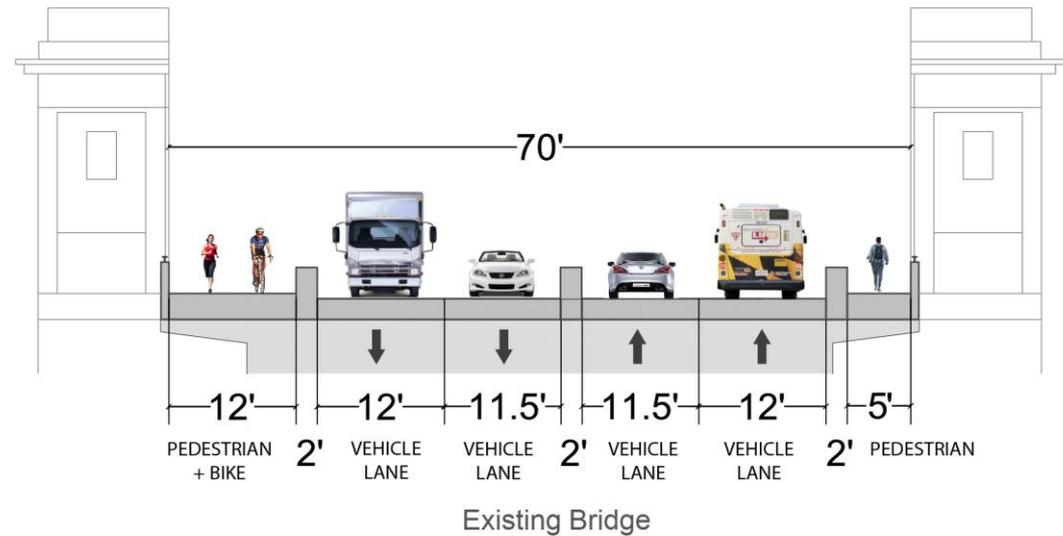


Potential Bridge Typical Sections

Option C: Rehabilitate bridge within existing footprint

Option C₃

- Reduce travel lanes to four lanes
- Add median barrier
- Add barrier between roadway and existing 5' sidewalk
- Add barrier-separated 12' pedestrian/bike path

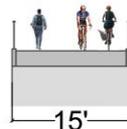


Existing Bridge



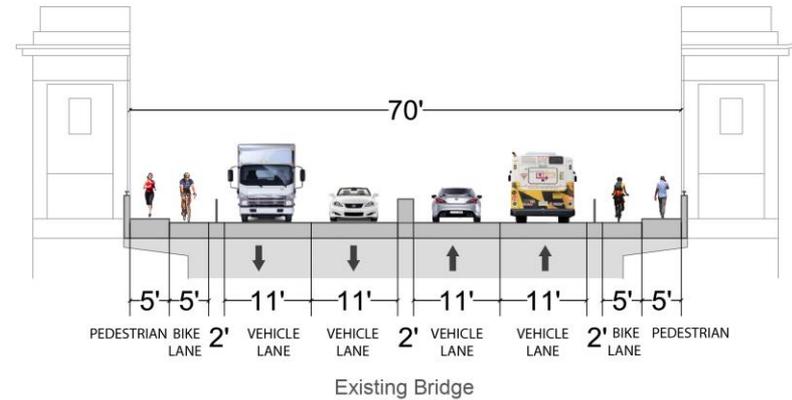
Potential Bridge Typical Sections

Option D: Rehabilitate existing bridge, build new adjacent pedestrian/bike bridge



PEDESTRIAN + BIKE

New Bridge



Existing Bridge

Note:
All Option C typical sections could be considered for Option D



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Potential Bridge Typical Sections

Option E: Build new bridge, demolish existing bridge



- Future travel forecasting analysis will determine the sizing of the new bridge
- New bridge would be designed to accommodate all modes of travel (including transit, freight, and ped/bike)

Next Steps

- Identify design opportunities and constraints
 - Evaluate future demand and traffic conditions on Hanover Street, including the effect of new development at Port Covington and other area growth
 - Continue to investigate other potential options to accommodate traffic patterns
 - Continue to develop typical sections and concepts to improve safety, connectivity, and accessibility
 - Refine potential bridge typical sections
 - Develop overall aesthetic plan for the corridor – lighting, sidewalks/paths, crosswalk treatments, trees/shrubs, street furniture, bus stops, etc.
 - Determine costs and impacts of the various concepts
- Continue robust public outreach program
 - Fall 2017 Public Meeting

Your Input...

Are there other typical sections for the bridge that would better accommodate the needs of the community?

Guidelines

- Minimum 2' median separation between vehicular travel directions
- Minimum 11' vehicle lane (consider trucks and buses)
- Minimum 2' separation between towers and vehicle lanes (if adjacent)
- Consider separation between pedestrians/bikes and travel lanes
- Minimum 5' sidewalk width for pedestrians (if used)
- Minimum 5' bike lane (if used)
- Minimum 8' shared use path width for pedestrians and bikes (if used)

